A B S T R A C T

The aim of this paper is to find out how to motivate future teachers of vocational subjects to implement financial literacy as a natural part of the teaching process. If a teacher does not have a positive attitude towards economics, it is challenging for him to include the proper activities in the field of financial literacy into the process of teaching vocational subjects. The education of future teachers in this field has a wide scope for improvement and implementation of new trends. The purpose of the paper is to examine the initial experiences of introducing the topic Financial Literacy into the training of future teachers in vocational subjects at secondary vocational schools which are taught at the Technical University in Košice (the course of additional pedagogical study). Financial Literacy was the part of a compulsory subject called Didactics in Vocational Subjects, which aimed to determine the awareness of students about the document The National Standard of Financial Literacy in a sample of 67 students. The participants used the document and its attachments in practice. Our results point out that most students did not know about the existence of the document and that none of the students had ever worked with the document before. An incompatibility between the document

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Financial literacy is defined differently. The definitions vary according to authors and institutions. There is a systematic testing of the financial literacy of the population in developed countries. Various aspects such as age, highest education or work activity are important when testing the population. A prerequisite for developing financial literacy is a good financial education system. Financial education is part of the country's government strategies and Slovakia considers it important. In Slovakia, financial education is covered in several documents. In this paper, we focused on a document entitled National Financial Literacy Standard (NSFL). This document defines the necessary knowledge, skills and experience in financial education and personal finance management. The document regulates individual levels of primary education to the level of upper secondary education graduates. The implementation of NSFL is based on a methodology that should include elements of education and training according to modern European trends.

Objectives

The Department of Engineering Education (DEE) at the Technical University of Košice (TUKE) offers to students and graduates of university study programs to acquire the pedagogical ability to teach specialized subjects at secondary vocational schools. This specific study course is called The Additional Pedagogical Study (APS). One of the compulsory subjects of this study course is the subject called Didactics of Professional Objectives (DPO). DPO is included in the 3rd and 4th semester of study. This paper offers some insights of the introduction of the NSFL theme into the content of the subject Didactics of Professional Objectives. The reason for introducing the topic of the NSFL was to update the content of the DPO. The NSFL document is important for the implementation of financial literacy in the teaching process at elementary and secondary schools in Slovakia.
Theoretical Framework

Literacy in modern society is one of the most used terms. In the past, literacy represented the ability of a person to read and write (Magalová, 2013). This understanding has gradually changed, expanded and reflects society's needs. Today, literacy represents a wide area. Zápotocná (2002) describes literacy as a transdisciplinary research problem. Other attributes added to the basic concept of literacy were aimed at widening the perception of specific literacy elements (mathematical, numerical, literary, financial, computer, information, legal literacy and others). Gavora (2002) suggests four models of literacy: initial literacy, text literacy (including functional literacy), literacy based on socio-cultural theory and e-literacy. The author points out their basic features, ways of detecting and evaluating literacy performance of individuals and the educational implications of this evaluation. In modern society, literacy can be considered as a gateway to education, information acquisition and processing. Literacy can be regarded as an instrument for professional success, as well as a basis for media perception, the creation of cultural and other personal hobbies and the functioning of various life situations. Sociologists and economists perceive literacy in a relationship with the development of human resources. The individual should also have the knowledge, skills and abilities that allow him to work with information and to be able to communicate effectively. The individual should be flexible and ready to change, know how to work collectively, make efficient use of working and non-working time, and be able to participate in civil and general terms (Rabušicová, 2002).

The Concept of Financial Literacy

There are a number of definitions of financial literacy. Authors and institutions define financial literacy differently.

Remund (2010) points out to many sources of financial literacy and he argues that each definition includes five components: understanding financial concepts, communicating about these concepts, solving personal finances, being good at making financial decisions, and being convinced of the effectiveness of decisions in future financial needs. The OECD (2012) PISA document states that financial literacy means the knowledge and understanding of financial concepts and risks. It is the ability, motivation and self-confidence to use the acquired knowledge to make effective decisions in financial contexts. The goal is to improve the financial situation of the indi-
individual and society and enable participation in the economic process (Miklovičová, 2017). Financial literacy consists of three main pillars: financial capacity and behaviour, financial knowledge and state support. State support requires the cooperation of the relevant financial institutions and continual improvement of the level and quality of the two previous attributes of financial literacy (Lusardi, 2012). Opletalová & Kvintová (2014) characterize financial literacy as a set of competencies that are applied in ordinary life and are necessary for active and responsible participation in the financial market. Financial literacy means the state of ongoing development (Belás et al., 2016). This allows each individual to respond effectively to new personal events and a changing economic environment. Financial literacy is most often characterized as the ability to use knowledge, skills and experience to effectively manage personal financial resources (Sivák, 2011). It is understood as ensuring life-long financial security for individuals and households (MESRaS, 2018). Financial literacy is more than just the knowledge of terms.

Financial literacy is influenced by factors such as age, education, family background, culture, tradition, place of residence, cash income, attitude to money and so on. The factors can increase as well as reduce financial literacy, especially in relation to the various effects of events in the life of an individual or family, or changing economic environment of society.

Financial Literacy Components

The definition of financial literacy is structured and represents the relationships of other components that are interrelated. Kovalčíková, Smoroň & Strenk (2011) have mentioned the various components of financial literacy: monetary literacy, price literacy and budget literacy. Opletalova & Kvintová (2014) divide the budgeting component of literacy into various parts such as managing assets (such as deposits, investments and insurance) and managing financial liabilities (such as loans or leasing). Škvára (2011) refers to the broader concept of financial literacy in the context of economic literacy as a whole. It focuses on the essential effects of other literacy.

The components of financial literacy (Figure 1) effect each other. In the process of education, it is necessary to focus on all components of financial literacy and to develop them. A financially literate individual in society is the result of mastering the required level of all components of literacy.
Financial Education

Financial education is important in expanding global awareness of the importance of financial literacy. The OECD has created a generally accepted definition of financial education for its Member States. Financial education is a process in which financial services users and investors increase knowledge of financial products and services. Financial education is an important complement to market behaviour and includes prudent business rules and improved individual financial behaviour in many countries. The OECD has set up an International Financial Education Network (IFEN) to conduct research and develop tools to support policy makers and public authorities to implement a national financial education strategy (OECD, 2018). The OECD gives countries the basic strategies to increase the level of teaching financial literacy. Subsequently, individual countries implement financial education at different levels. Stakeholders - public partners, financial institutions and governments, but also individuals invite teachers of economics, business, social sciences, mathematics and ultimately all teachers to engage in defining financial literacy, sharing ideas and experience needed for developing financial literacy of students (Coleman, 2015).

Financial Literacy and Financial Education in Slovakia

In Slovakia, the National Standard of Financial Literacy (NSFL) has become the basic document for the creation of a uniform and comprehensive
system of financial education in schools. The Ministry of Education, Science, Research and Sport of the Slovak Republic (MESRaS SR), the Ministry of Finance of the Slovak Republic (MF SR) and the Interdepartmental Expert Group on Financial Literacy worked together with the MESRaS SR. The NSFL is the basic document which determines the minimum requirements and the competencies for the graduates of primary and secondary schools in the field of financial literacy. Table 1 compares three documents of National Standard of Financial Literacy in SR.

Table 1: Comparison of the National Standard for Financial Literacy

<table>
<thead>
<tr>
<th></th>
<th>NSFL v. 1.0</th>
<th>NSFL v. 1.1</th>
<th>NSFL v. 1.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>A date release</td>
<td>30.10.2008</td>
<td>31.3.2014</td>
<td>9.3.2017</td>
</tr>
<tr>
<td>Themes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. A person in the sphere of money</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Financial responsibility and decision</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Planning and managing money</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Credit and debt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Savings and Investments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Risk management and insurance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annexes</td>
<td>Directly in document: Glossary of basic terms</td>
<td>Methodology for the incorporation and application of financial literacy topics in school education programs of primary and secondary schools.</td>
<td>No updated attachments: Attachments are used NSFL v 1.1</td>
</tr>
</tbody>
</table>

Source: prepared by authors from NSFL v. 1.0 (2008), NSFL v. 1.1 (2014), NSFL v. 1.0 (2017), MESRaS SR (2014)
Each competence represents the skills and abilities the pupils should acquire. Individual competences are divided into partial fields. In the literature we can find the partial competencies which are recommended for graduates at three levels. The first level is, for the purpose of this standard, the first stage of the primary school; the second level is the second stage of primary school, first up to fourth grade of eight year secondary school, the first grade of bilingual secondary school as well as lower vocational education and middle vocational education. Pupils are assigned to the second level because the primary purpose of field of study is the preparation for the profession. The third level is intended for pupils of fields of study, who acquire full middle general education or full vocational education. (NSFL v 1.1, 2014) All sub-competencies have created expectations that describe the way in which pupils should be able to use the acquired knowledge in day-to-day financial decisions. It is supposed to allow acquiring the knowledge, skills and experience needed to solve different life situations of individuals and families.

MESRaS SR (2014) has issued a Methodology for teachers of primary and secondary schools to the renewed document of NSFL v. 1.1. The publication describes the ways of incorporating individual topics of the NSFL v. 1.1 especially for the first level of primary school, the second stage of primary school, for grammar schools, for secondary vocational schools and conservatories. In the case of grammar schools and the first two levels of education, there are also subjects to which financial literacy can be directly integrated. There are no specific subjects in the subchapter for incorporating the topics of NSFL into secondary vocational schools and conservatories, but this subsection contains a series of steps that should introduce the issue of financial literacy into the school education program. These are the following steps:

1. Get acquainted with the updated NSFL;
2. Acquire, use and apply professional terminology, professional expressions corresponding to the age and adequacy of pupils;
3. Study the content and performance standards of the educational standard;
4. Incorporate content and performance standards into the graduate profile;
5. Establish a learning area;
6. Select the content and performance standards from the graduate profile and work with them in view of selecting the topics of the NSFL in relation to the education department.

The methodology also describes ways, methods, and forms by which topics can be incorporated into a particular educational curriculum (MESRaS, 2014). The order of individual topics is not precisely defined and the school determines it on the basis of its implementation into the school education program. School and teachers are responsible for the incorporation of financial literacy into the curriculum.

NSFL v. 1.1 was replaced by NSFL v. 1.2 in 1. September 2017. A new version was created due to the need to update the NSFL, which was based on the suggestions of the Ministry of Economics, the MF SR and Government Office of the Slovak Republic. The individual institutions try to respond to the constantly changing conditions in economic policy and the financial market in order to prevent possible negative impacts. The main objective of updating NSFL was to optimize it.

In the implementation of the NSFL v. 1.2 document, there is a relatively large leeway for introducing of financial literacy topics into the vocational subjects in education by teachers. This is based on teacher’s decision, the needs of the students and the educational conditions of the school. Teachers can also collaborate in the creation of new themes within the curriculum of general education and vocational subjects of primary and secondary schools or financial literacy courses. MESRaS SR offers a portal for digital educational content (https://www.edu-centrum.sk) as well as a portal for financial education and financial consumer protection (https://www.fininfo.sk) to help pedagogic staff, pupils and graduates in identifying relevant educational materials.

Methodology

We analysed 67 seminar reports prepared by students who want to teach professional subjects in the future. It was the task of the students to elaborate their own teacher's preparation for the teaching lesson of the vocational subject, incorporating elements of financial literacy. The assignment of the seminar paper included the tasks to include in the course of the subject a selected theme of NSFL v. 1.2 and implement it into the content of the curriculum. Students were asked to select partial competencies according to a level corresponding to a particular level of education. They had to use the
Methodology for incorporating and applying the topics of financial literacy into the school education program (MESRaS SR, 2014). Future teachers should specify the possible application of the chosen topic of financial literacy and its partial competence in the preparation of the lessons. The data for this paper were obtained through interviews with students, by analysing the seminar reports and through a questionnaire survey. There was no idea to observe anything at the beginning. It was only on the basis of the results that we decided to draw some knowledge of the conclusions that we observed and seemed to be interesting.

Results

APS students could choose from several topics from the NSFL v. 1.2, which were later analyzed in their seminar report. Table 2 presents the main topics from the NSFL v. 1.2. Subsequently, students selected the competencies they wanted to develop in the individual topics.

<table>
<thead>
<tr>
<th>Topics - NSFL v. 1.2</th>
<th>Number of students</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Financial responsibility of consumers</td>
<td>7</td>
<td>10.4%</td>
</tr>
<tr>
<td>2. Planning, Reception and Work</td>
<td>25</td>
<td>37.3%</td>
</tr>
<tr>
<td>3. Decision-making and management of consumers</td>
<td>21</td>
<td>31.3%</td>
</tr>
<tr>
<td>4. Loan and Debt</td>
<td>6</td>
<td>9.0%</td>
</tr>
<tr>
<td>5. Saving and investing</td>
<td>2</td>
<td>3.0%</td>
</tr>
<tr>
<td>6. Risk management and insurance</td>
<td>6</td>
<td>9.0%</td>
</tr>
</tbody>
</table>

Source: prepared by authors

Many future teachers have chosen the theme “Planning, Reception and Work”. It was not ascertained why they chose this topic. We believe that the topic was the easiest to include in the subject content. As part of this theme, students most often chose partial competence in the preparation of a financial plan. The second most frequently chosen topic was “Decision-Making and Consumer Management”. Even in this case, it is possible to deduce that the topic of consumer behaviour is easier for teachers to use in teaching. Ever teacher is also a consumer and he can count on his own experience in
this area. Within this topic, students most often chose to develop consumer skills in responsible purchasing decisions.

We hypothesize that students are influenced by their studies and professional orientation in tertiary education when they choose a topic from the NSFL. Due to the unparalleled representation of individual departments, we divided students into two categories for our analysis purpose only: students with an economic focus and students with a non-economic - technical focus.

Table 3: Area of professional study

<table>
<thead>
<tr>
<th>Area of professional study</th>
<th>Economic focused students</th>
<th>Non-economic focused students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topics of National Standard of Financial Literacy v. 1.2</td>
<td>Number of students</td>
<td>%</td>
</tr>
<tr>
<td>Topics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Financial responsibility of consumers</td>
<td>27 100%</td>
<td>40 100%</td>
</tr>
<tr>
<td>2. Planning, Reception and Work</td>
<td>12 44.4%</td>
<td>13 32.5%</td>
</tr>
<tr>
<td>3. Decision-making and management of consumers</td>
<td>4 14.8%</td>
<td>17 42.5%</td>
</tr>
<tr>
<td>4. Loan and Debt</td>
<td>4 14.8%</td>
<td>2 5.0%</td>
</tr>
<tr>
<td>5. Saving and investing</td>
<td>1 3.7%</td>
<td>1 2.5%</td>
</tr>
<tr>
<td>6. Risk management and insurance</td>
<td>4 14.8%</td>
<td>2 5.0%</td>
</tr>
</tbody>
</table>

Source: prepared by authors

The findings corresponded with our hypothesis that students with a technical focus will be more decisive on the topic “Consumer Decision-Making and Management” (42.5%), as this involves the adoption of a financial decision with the consideration of alternatives and their implications. Comparing multiple alternatives and choosing the best and also the most economical way is characteristic for technical decision making. Students with an economic focus chose the theme “Planning, income and work” (44.4%). This may be related to the anticipated focus on teaching business economics.

Analysing the seminar reports has led us to conclude:

1. NSFL v. 1.2 does not fully coincide with the attachments that are created to the NSFL v. 1.1.
2. NSFL v. 1.2 also does not fully coincide with individual state education programs.
3. Many of our students have never heard about the NSFL (80.6%), the remaining students (19.4%) had heard about the NSFL but did not work with it.
4. Students with a technical focus had a problem to devise an appropriate activity for students that would involve financial literacy and would need twice the time to prepare a seminar report compared to the students with an economic focus.
5. Students had problems working with images in a text editor, and they also had problems with the correct quoting of resources used to process the semester assignment.
6. In the context of working with the mentioned documents, we can conclude that some of the recommended websites do not work.

**Practical Implementation of the Inclusion of Financial Literacy in the Teaching Process**

We believe it is very important to choose good teaching methods for developing financial literacy. The topic is usually reflected in the lesson. If the information from the teacher to the students moves (by speaking or explaining) only in one direction, the passivity of receiving information leads the students to perceive it only on a theoretical level. There are more appropriate teaching methods for teaching financial literacy where students need to build their attitudes. These are methods in which a teacher requires student activity.

We recommend using methods that lead students to find a specific type of literature with financial information - always related to the trade union area (price list of components, components, services) and then discuss with students. This will make it possible to appropriately incorporate the financial literacy theme into lessons. Another option is to select one of the problem methods, for example: heuristic method or brainstorming. Case studies and project methods are also appropriate.

Education of vocational subjects with elements of financial literacy will bring the desired effect in the form of strengthening students' cognitive and affective competences. It is also essential that teachers of vocational subjects are able to successfully manage the course of teaching. Attention
should also be paid to this problem when preparing future teachers of vocational subjects.

Discussion

Cole, Paulson, & Shastry (2012) reported that the understanding of the financial decision-making process is limited. They point out that education has a major impact on financial market participation and smaller but statistically and economically significant effects on financial management. They argue that education significantly reduces the probability of declaring bankruptcy or suffering during the financial crisis. The authors argue that education can influence decision-making through attitudes, lending behaviour, discount rates, aversion to risk, and the impact of co-workers and neighbours. Later, Cole, Paulson & Shastry (2013) did research at a secondary school to find out whether it is possible to learn good financial behaviour at secondary school. They found that classical lessons of financial education, where the change of decision had no real effect, while the added math lessons specializing in financial tasks, made it possible to learn good financial behaviour.

Fernandes, Lynch & Netemeyer (2014) compared many studies on financial education. The authors argue that financial education is inevitable, but its importance for real-life decisions is overestimated. The authors also found that consumers with low financial education have the problem of saving and their economic decisions unduly increase household debt. However, they also report the same results for consumers who underwent financial education. According to their findings, the financial literacy of "trained" consumers may have increased although consumer behaviour has not changed. They point out that personality traits in financial management cannot be explained by differences in financial education. Family education, especially among children significant influence on financial behaviour of an individual has family education, especially among children (Kláseková, 2017).

The aim of our contribution was to draw attention to the education of future teachers of vocational subjects at secondary vocational schools and their education in financial literacy. We haven't noticed an observation similar to ours in the postings available. We realize that it would be useful to examine a larger number of students, which would make the survey more valid. However, we could only carry out the research on the number of stu-
dents enrolled for Additional Pedagogical Study (APS). We will continue to observe the future.

We recommend that the theme of financial literacy should be introduced into all APS programs and to create a single tool for examining the training of future teachers in this field. Every graduate has to be financially literate to be ready for career, college education, and ultimately real life in society. Therefore, it is necessary to have competent high-skilled teachers who will be able to introduce financial literacy into the teaching process of each individual subject. The NSFL gives enough space for vocational schools to implement their financial literacy in education. Teachers of vocational subjects should be able to understand how to meaningfully teach students about financial literacy, because it is very important for their career and real life.

Stakeholders involved in creating standards and participating in enhancing financial literacy in schools (public partners, financial institutions and government bodies) should primarily focus on teachers themselves not only to motivate but especially competent in the field of financial literacy, because the work of teachers is crucial in teaching. Teachers need to know and understand what is needed to become financially literate, and why it is also necessary for the future development of society.

Conclusion

The main objective of the paper was to introduce the teaching concept of financial literacy for future teachers of vocational subjects at secondary vocational schools. As part of the study on the supplementary pedagogical study at the Technical University in Košice, the content of the subject DPO was updated in the academic year 2017/2018. We summarized the results obtained on the basis of students’ work in the processing of the semester work with the implementation of financial literacy into the content of education of specific subjects.

We can conclude that many future teachers do not know about the existence of the National Standard of Financial Literacy document, and those who know about it have not worked with it. That is why we propose an introduction of this topic into Additional Pedagogical Study.
References


Article history: Received: 18 January, 2019
Accepted: 17 April, 2019